APPENDIX 3

APPENDIX 3

Animal Health Infrastructure in the United States

Introduction

The U.S. animal health infrastructure is a complex network of activities, programs, and people. This network responds to animal health issues; scientific, economic, and political conditions pertinent to consumers; public health and food safety issues; trade interests; and, environmental, wildlife, and animal welfare concerns.

The various components of the infrastructure implement measures that promote animal health, mitigate risks, and deter hazardous activities to ensure healthy animal populations, wholesome and safe food supplies, rapid response to animal health emergencies, effective disease-control programs, efficient surveillance and reporting systems, and viable export markets. Among the key components of the infrastructure are

- Federal animal health services,
- State animal health authorities,
- Diagnostic laboratories,
- Federally accredited veterinarians,
- The United States Animal Health Association USAHA and other animal health organizations, and
- The global animal health infrastructure.

Coordination and cooperation among these organizations and facilities are essential in order to improve animal health, work toward eliminating disease risks, and limit transmission of diseases from animal to animal as well as from animals to people.

Federal Animal Health Services

Many Federal agencies work to ensure the health of U.S. livestock; most are within the USDA (fig. A3.1). Each agency is charged with specific tasks and responsibilities, and all work to protect the health and vitality of U.S. agriculture through established rules and regulations. Within USDA, APHIS, which is part of Marketing and Regulatory Programs, plays a lead role in animal health matters through its legal authorities, national perspectives, and responsibility as the Nation's representative in international livestock issues.

Federal animal health and food safety regulations are outlined in the *U.S. Code of Federal Regulations* (CFR). The CFR, which is revised annually, codifies regulations developed by Government agencies under laws passed by Congress and signed by the President. Animal health and food safety regulations are detailed in Titles 9 and 21 of the code (9 CFR, 21 CFR).

Before adoption, proposed regulations appear for public review and comment in the *Federal Register*, which is published each business day. All proposed rules that might affect U.S. trade in livestock and animal products are also provided to the World Trade Organization (WTO) to allow for comment by foreign governments and overseas suppliers. Further, APHIS publishes Uniform Methods and Rules, which are minimum program standards for the implementation of specific animal health programs covered by regulations.

FIGURE A3.1: USDA organizational chart. APHIS falls under the Marketing and Regulatory Programs branch of the Department

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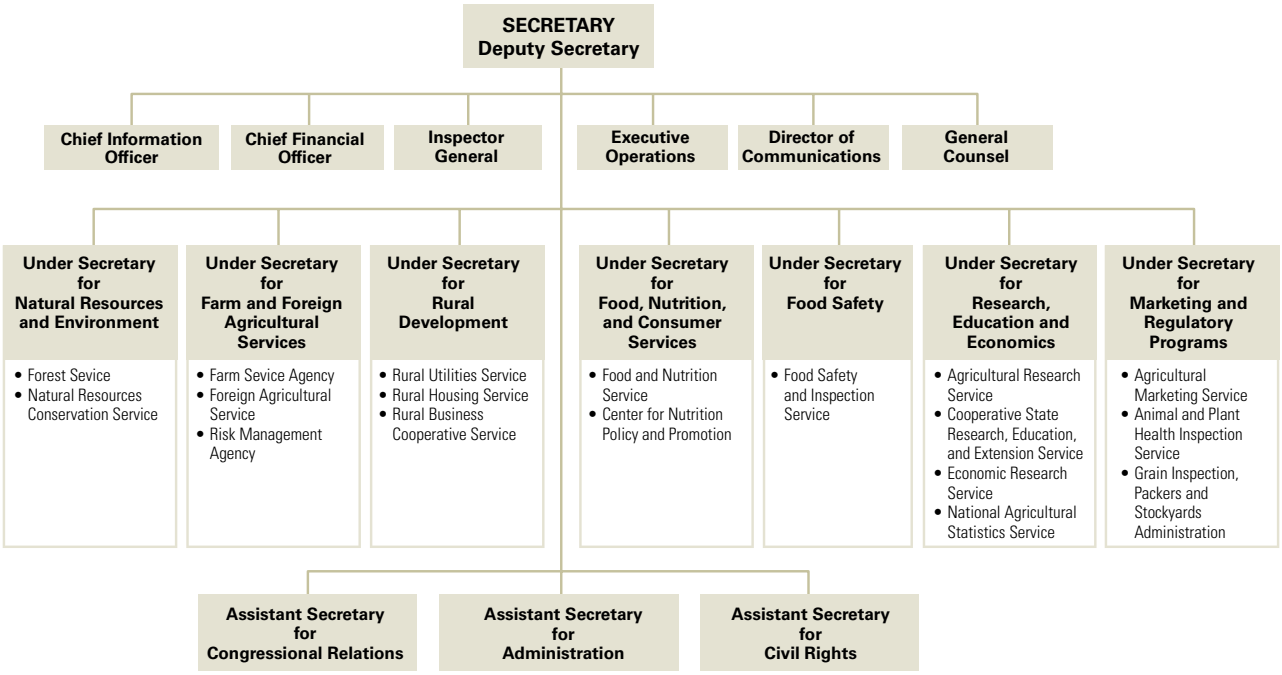


Role of APHIS in U.S. Animal Health Infrastructure

APHIS consists of six program units: Animal Care (AC), Biotechnology Regulatory Services (BRS), International Services (IS), Plant Protection and Quarantine (PPQ), Veterinary Services (VS), and Wildlife Services (WS).

- AC is responsible for administering the Animal Welfare and the Horse Protection Acts and for providing leadership in establishing acceptable standards of humane animal care and handling.
- BRS assesses the agricultural and environmental safety of genetically engineered organisms and evaluates petitions to USDA to cease the regulation of specific engineered organisms. Through a permit and notification process, BRS regulates the field testing (confined release of genetically engineered organisms into the environment), interstate movement, and importation of genetically engineered organisms.
- IS provides animal and plant health experts overseas and in Washington, D.C., to enhance USDA's capacity to safeguard American agricultural health and promote agricultural trade.
- PPQ develops regulations, policies, and guidelines to safeguard agricultural and natural resources from the risks associated with the entry, establishment, or spread of plant pests and noxious weeds.
- WS provides leadership for managing wildlife damage and resolving wildlife-related conflicts involving human activities, agricultural production, and natural resource protection.
- VS plays a lead role in protecting and improving the health, quality, and marketability of U.S. livestock, animal products, and veterinary biologics by preventing, controlling, and eradicating animal diseases and monitoring and promoting animal health and productivity.

Role and Structure of VS

To perform its diverse roles in protecting animal health, VS employs more than 1,800 people with a wide range of scientific, technical, and administrative skills (table A3.1). The VS workforce includes veterinarians, animal health technicians, animal caretakers, budget analysts, biological technicians, computer specialists, economists, entomologists, epidemiologists, geographers, management analysts, microbiologists, pathologists, statisticians, spatial analysts, and administrative and animal health support professionals.

Most VS program policy and regulatory development occurs at headquarters facilities in Riverdale, Maryland, and Washington, D.C. (fig. A3.2). These offices also provide liaison with other Federal agencies, members of the executive branch, and congressional offices. VS functions are organized into three branches: Regional Operations, Emergency Management and Diagnostics, and National Animal Health Policy and Programs.

Regional Operations—Most of the VS veterinarians work as Veterinary Medical Officers in the field, where they interact with producers, respond to reports of potential FADs, and help administer regulatory programs and research projects. This VS field force is distributed nationally and administered via area offices in most of the 50 States and major ports-of-entry. VS also has employees and offices in Puerto Rico and other U.S. territories. VS disease eradication and control activities (see Chapter 3), export certification, and surveillance actions (see Chapter 2) take place primarily out of these field-office sites, which are overseen by the Eastern Regional Office in Raleigh, North Carolina, and the Western Regional Office in Fort Collins, Colorado.

Emergency Management and Diagnostics—The emergency management arm of VS comprises three groups (fig. A3.2): National Center for Animal Health Emergency Management (NCAHEM), the National Veterinary Services Laboratories (NVSL), and the Center for Veterinary Biologics (CVB). Please see Chapter 1 for information on NCAHEM and Chapter 5 for detailed information on NVSL and CVB.

TABLE A3.1: Veterinary Services permanent workforce, 2007

Occupation	Number	Percent of workforce
Veterinarians	540	29.6
Animal health technicians	318	17.4
Administrative and clerical support	426	23.4
Biological sciences	244	13.4
Information technology	102	5.6
Other	193	10.6
Total	*1,823*	*100.0*

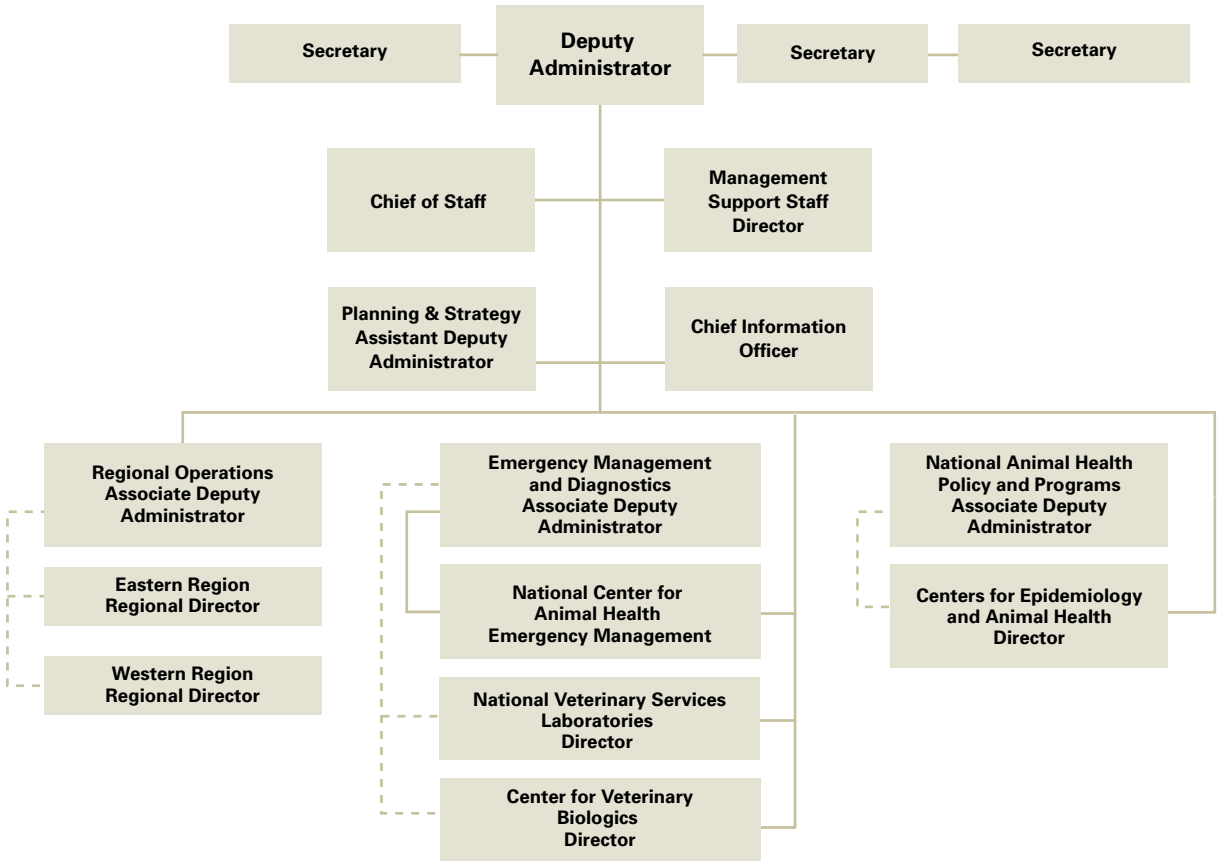
TABLE A3.2: Organization profile, USDA–APHIS Veterinary Services, 2007

Organization	Total
Office of Deputy Administrator	12
Planning and Strategy	5
Management support staff	17
Center for Veterinary Biologics	145
National Veterinary Services Laboratories	229
Emergency Management and Diagnostics	27
National Animal Health Policy and Programs	197
Centers for Epidemiology and Animal Health	135
Eastern Region	524
Western Region	532
Total permanent employees	*1,823*

National Animal Health Policy and Programs and Centers for Epidemiology and Animal Health—The third branch of the VS organization chart (fig. A3.2) consists of National Animal Health Policy and Programs (NAHPP) and the Centers for Epidemiology and Animal Health (CEAH). NAHPP initiates, leads, coordinates, and facilitates national certification and eradication programs that protect

FIGURE A3.2: Organizational chart for APHIS–VS

March 3, 2006



U.S. animal health by preventing, minimizing, or eradicating animal diseases of economic and public health concern. Some primary support functions also are administered by NAHPP, which includes five subunits: National Center for Import and Export (NCIE); National Center for Animal Health Programs (NCAHP); Information Systems; Professional Development Staff; and, Writing, Editing, and Regulatory Coordination Staff.

The NCAHP includes three subunits: Ruminant Health Programs (RHP); Aquaculture, Swine, Equine, and Poultry Health Programs (ASEPHP); and, the Surveillance and Identification Program (SIP).

RHP and ASEPHP are responsible for campaigns to eradicate scrapie in sheep and goats, bovine tuberculosis, swine pseudorabies, swine brucellosis, and bovine brucellosis (see Chapter 3 for more information). The RHP and ASEPHP also are responsible for the following disease control programs and activities:

- Johne's disease program,
- National Low-Pathogenicity Avian Influenza Program,
- Aquaculture disease programs,
- Chronic wasting disease efforts,
- Equine disease programs,
- Exotic Newcastle disease surveillance,
- Classical swine fever surveillance,
- National Poultry Improvement Plan, and
- Slaughter Horse Transport Program.

SIP helps coordinate national surveillance, animal identification, veterinary accreditation, and livestock markets.

CEAH is a collaborating center of the OIE for animal-disease information systems and risk analysis (see Chapter 9 for more information). CEAH personnel conduct epidemiologic, economic, and spatial analyses; develop technology applications; and, maintain key databases. CEAH consists of three subunits.

- The Center for Emerging Issues (CEI) assesses the impacts of foreign and domestic disease outbreaks, economic events, and natural disasters; develops surveillance approaches for emerging diseases; performs pathway assessments and domestic risk analyses; informs VS management of trends and change forces to enhance strategic planning; and, provides geographic information systems support to VS activities.
- The National Animal Health Monitoring System (NAHMS) Unit provides baseline information on health, disease, and production.
- The National Surveillance Unit coordinates national animal health surveillance.

Table A3.2 shows the distribution of permanent VS employees by organizational unit.

The VS Web site can be accessed at *http://www.aphis.usda.gov/animal_health/index.shtml*. The site provides updates on VS programs and electronic copies of various VS forms.

Other USDA Agencies Providing Animal Health Services

In addition to APHIS, the following four USDA agencies also have important roles in protecting animal health (fig. A3.1).

- The Agricultural Research Service (ARS) is the primary research agency within USDA for livestock and crop-related production issues, including animal health and food safety.
- The Cooperative State Research, Education, and Extension Service (CSREES) seeks to advance knowledge for agriculture, the environment, human health and well-being, and communities by supporting research, education, and extension programs in the Land-Grant University System and other partner organizations.
- The Food Safety and Inspection Service (FSIS) inspects all meat, poultry, and processed egg products sold in interstate commerce to ensure that they are safe, wholesome, and properly labeled. FSIS also reinspects imported meat, poultry, and processed egg products.
- The Foreign Agricultural Service (FAS) reports on outbreaks of animal diseases worldwide and on the quarantine and trade measures that countries adopt because of these outbreaks. FAS publishes Food and Agricultural Import Regulations and Standards (FAIRS) Reports, FAIRS Certificate Reports, and Sanitary and Phytosanitary Food Safety Reports that identify the entry requirements for livestock and livestock products. FAS also helps remove unfair trade barriers to U.S. products.

Other Federal Agencies Providing Animal Health Services

The USDA organizations described previously work in concert with many other Federal agencies that exercise authority and responsibility for maintaining domestic animal health. A few of these agencies are described below.

- The U.S. Department of Health and Human Services' Food and Drug Administration (FDA) oversees the manufacture, importation, and use of human and animal pharmaceuticals, including antimicrobial and anti-inflammatory drugs, and a variety of natural and synthetic compounds. FDA also regulates food labeling, food product safety (except meat, poultry, and certain egg products), livestock feed, and pet food.
- The U.S. Department of Homeland Security (DHS) has responsibility for emergencies related to animal diseases, with USDA serving as the lead coordinating agency for such emergencies.

Within DHS, Customs and Border Protection (CBP) is responsible for agricultural inspection at the Nation's borders and ports-of-entry to prevent the introduction of foreign animal and plant pests and diseases that could harm the country's agricultural resources.

- The U.S. Department of Commerce's National Marine Fisheries Service (NMFS) provides a voluntary inspection service to fisheries and aquaculture industries.

State Animal Health Authorities

Each State has animal health authorities to monitor and control diseases in its domestic livestock and poultry. States control diseases through inspections, testing, vaccinations, treatments, quarantines, and other activities. States have authority to prohibit the entry of livestock, poultry, aquaculture species, and animal products from other States if those animals or products are considered health risks to local animal populations. Consequently, each State develops its own respective domestic commerce regulations.

VS cooperates with States at markets where interstate movements may occur and helps States conduct disease surveillance programs at slaughter plants and livestock concentration points. States and VS also work together in national and State animal disease control and education programs. In addition, States maintain veterinary diagnostic laboratories, provide animal disease information to veterinary practitioners, and encourage prompt reporting of specific conditions. Also, departments of public health, colleges of veterinary medicine, and wildlife agencies within each State have important roles within each State's animal health activities.

Although States must adhere to specific requirements to participate in national programs, State-specific requirements can be developed to meet individual States' needs. Generally, State-specific requirements are more stringent than national program requirements.

In addition, States cooperate with Federal agencies to develop animal health emergency plans. States also implement producer education programs for disease management and control.

Diagnostic Laboratories

Frequently, diagnosing livestock and poultry diseases requires laboratory tests. Diagnostic laboratories diagnose endemic and exotic diseases, support disease control and reporting programs, and meet expectations of trading partners. OIE reference laboratories confirm FAD detections.

In the United States, the American Association of Veterinary Laboratory Diagnosticians (AAVLD) accredits laboratories. Accreditation is dependent on several criteria, including promoting excellence in diagnostic service, establishing internal quality control, hiring and retraining qualified staff and professional personnel, developing innovative techniques, and operating adequate facilities to conduct laboratory diagnostic services. Additionally, laboratories can become certified by VS to conduct specific tests to certify animals for movement or to participate in disease-eradication programs.

Multiple APHIS-approved laboratories serve livestock and poultry producers (see *http://www.aphis.usda.gov/vs/nvsl/Labs/labcertification.htm*). To coordinate the capabilities of Federal, State, and university laboratories, a laboratory network, called the National Animal Health Laboratory Network, has been created. Federal laboratories are described in detail in Chapter 5.

Federally Accredited Veterinarians

Private veterinary practitioners are an integral part of the U.S. veterinary infrastructure. The VS National Veterinary Accreditation Program (NVAP), a voluntary program that certifies private veterinary practitioners to work cooperatively with Federal veterinarians and State animal health officials, is described in more detail in Chapter 8.

USAHA and Other National Associations

USAHA is a science-based, nonprofit, voluntary organization with the mission of protecting animal and public health. With 1,400 members, USAHA provides a forum for communication and coordination among State and Federal governments, universities, industry, and other groups on issues of animal health and welfare, disease control, food safety, and public health. USAHA also serves as a clearinghouse for new information and methods. USAHA develops solutions to animal health issues based on science, new information and methods, and public policy risk-benefit analysis.

USAHA works to develop consensus among varied groups for changing laws, regulations, policies, and programs. Committees are formed within USAHA dedicated to specific topics and issues. USAHA provides input to, and makes requests of, VS and other Federal agencies in the form of resolutions from the committees, which are approved by membership.

Other national associations with important roles in U.S. animal health are described below.

- The National Institute for Animal Agriculture provides a forum for building consensus and advancing solutions for animal agriculture and provides continuing education and communication linkages for animal agriculture professionals. The organization is dedicated to eradicating diseases that pose a risk to the health of animals, wildlife, and humans; promoting a safe and wholesome food supply for the United States and trading partners; and, encouraging the best practices in environmental stewardship, animal health, and well being.
- The American Veterinary Medical Association (AVMA) seeks to improve animal and human health and advance veterinary medicine and its role in public health, biological science, and agriculture. Representing more than 76,000 veterinarians working in private and corporate practice, government, industry, academia, and uniformed services, the not-for-profit AMVA serves as an advocate for the veterinary profession by presenting views to government, academia, agriculture, and other concerned publics.
- The AAVLD works to establish uniform diagnostic techniques; improve existing techniques and develop new ones; coordinate diagnostic activities of regulatory, research, and service laboratories; and disseminate information about the diagnosis of animal diseases. The AAVLD also acts as a consultant to the USAHA on uniform diagnostic criteria involved in regulatory animal disease programs.
- The Animal Agriculture Coalition is an alliance of livestock, poultry, and aquaculture trade associations and the veterinary and scientific communities, all of which monitor and influence animal health, the environment, food safety, research, and education issues.
- The National Association of State Departments of Agriculture (NASDA) represents the State and U.S. Territory departments of agriculture in the development, implementation, and communication of public policy and programs related to the agriculture industry. For example, in a cooperative program with the National Agricultural Statistics Service to further collection of meaningful and objective agricultural information, NASDA employs more than 3,500 part-time statistical enumerators to collect data using both on-farm and telephone surveys with ranch and farm operators. See Chapters 4 and 6 for more information.

The Global Animal Health Infrastructure

The United States is a signatory country to the WTO and is obligated to comply with the WTO's Agreement on the Application of Sanitary and Phytosanitary Standards (SPS Agreement). The SPS Agreement's main intent is to facilitate trade while recognizing the right of countries to protect the life and health of humans, other animals, and plants. To prevent the use of SPS measures as unjustified trade barriers, the SPS Agreement dictates that all protective measures must be science based and not unnecessarily restrictive.

The WTO assigned standards-setting authority to the OIE for international trade-related animal health issues, to the International Plant Protection Convention (IPPC) for plant health issues, and to the Codex Alimentarius Commission of the United Nations for food safety.

Since 1976, VS has reported to OIE data from State officials, veterinary journals, diagnostic test results, and disease surveillance programs and, since 1998, data from the National Animal Health Reporting System (NAHRS). NAHRS is a joint effort of USAHA, AAVLD, and APHIS. NAHRS assimilates data from chief State animal health officials regarding the presence of confirmed OIE-reportable diseases in specific commercial livestock, poultry, and aquaculture species in the United States. (See Chapter 4 for more information on NAHRS.) This information is used by the United States and other OIE member countries to

- Improve livestock and public health strategies,
- Prioritize animal health programs and research activities,
- Strengthen border security,
- Provide a basis for trade negotiations, and
- Certify point-of-origin health status of exported animals, poultry, and related products.

USDA agencies (including APHIS, FAS, and FSIS) regularly send representatives to negotiate animal health and food safety issues in bilateral, regional (such as the North America Free Trade Agreement), and multilateral forums, including the WTO. These representatives also work in dozens of specialized animal health and food safety committees under the OIE, IPPC, and Codex Alimentarius. Working together, U.S. specialists promote sound science, transparent rulemaking, and effective monitoring to reduce the risk of exposure to animal disease, while at the same time promoting fair and safe trade.